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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,382

Applicant(s)

KARPIEL ET AL.

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6-01-2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) ~~1-12~~ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claim 12** objected to because of the following informalities:

- a. In line 4, 'operate' should be 'operative'.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-6** rejected under 35 U.S.C. 103(a) as being unpatentable over Boudreaux, Jr. et al. (6584197) in view of Carse et al (4730311), and further in view of Saunder's et al. (6078112).

- a. **Claim 1:** Boudreaux discloses a telecommunications system comprising:

- i. A customer service terminal having:

- (1) A digital signal input (Col 1 lines 43 to 50)
- (2) Low voltage DC power input (+42V and V in Fig. 4B)

- (3) A plurality of analog and digital signal outputs (terminal equipment subsystems 32 in Fig. 1) (Col 4 lines 35-41).
- ii. A dsl (HDSL for example) line connected to the digital input (Col 1 lines 43 to 50).
- iii. A plurality of analog devices are inherently connected to the terminal equipment subsystems 32 in Fig. 1 (Col 4 lines 35-41) (that may be POTS interfaces) for the purpose of communicating on the network with Boudreaux's communication system.
- iv. A low voltage DC power supply (local utility interface 10 in Fig. 1) having a high voltage ac input connected to a high voltage AC power line, and having a low voltage DC output connected to said low voltage DC power input (Col 4 lines 27-46).

However, Boudreaux does not disclose:

- v. A low voltage rechargeable battery pack that forms a manually removable portion of the low voltage DC supply.
- vi. The battery is used in case of a failure of the AC power
- vii. An indicator to indicate failure of the AC power line
- viii. A second indicator to indicate the charge state of the battery pack
- ix. The battery pack is Hot Swappable (able to be replaced without interrupting service to the user), as long as the AC power is functioning

Carse discloses a telecommunications system (Abstract) that receives AC power comprising a battery pack backup 88 (Fig. 2), a first indicator (alarm 92) to indicate the failure of the AC power line, and a second indicator 93 to indicate the state of charge of the battery pack (Col 7 lines 22-48). It would have been obvious to one of ordinary skill in the art at the time of this application to include a backup battery pack in Boudreaux's system for the purpose of being able to provide the subscriber with power in the event of a loss of power from the AC power line and loss of (or insufficient amount of) power from the central office.

Saunders discloses a rechargeable, hot-swappable battery pack that may be used in computer systems (such as the subscriber multiplexing systems disclosed by Boudreaux and Carse) (Abstract) (Col 3 lines 27-45). He discloses that the system may include hot swappable devices such as batteries that may be used with (and recharged by) an existing AC power supply (Col 4 lines 54-67). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize hot-swappable, rechargeable batteries in the system taught by Boudreaux in view of Carse for the purpose of providing an even greater level of service to the subscriber with the batteries being rechargeable (longer lasting), and replaceable in the case that the battery pack fails or becomes discharged.

b. **Claim 2:** Although Boudreaux, Carse, and Saunders do not specify an amount of time the battery pack would keep the system powered in the event of a failure, It would have been obvious to one of ordinary skill in the art at the time of this application to provide a battery that could maintain the system power for a reasonable amount of time for the loss of AC power to be detected and repaired (as long as 8 hours).

c. **Claim 3:** In Boudreaux's system, the dsl line is an xdsl (HDSL) line (Col 1 lines 43 to 50).

d. **Claim 4:** Although Boudreaux, Carse, and Saunders do not specify an amount of time the battery pack would keep the system powered in the event of a failure, It would have been obvious to one of ordinary skill in the art at the time of this application to provide a battery that could maintain the system power for a reasonable amount of time for the loss of AC power to be detected and repaired (as long as 8 hours).

e. **Claim 5:** Boudreaux does not disclose using his system with an SDSL line. However, it would have been obvious to one of ordinary skill in the art at the time of this application that the system could be setup implemented with any of the xDSL line standards (such as SDSL) for the purpose of being compatible with the ever changing set of signaling standards.

f. **Claim 6:** In Boudreaux's system the terminal will remain operative as long as a low voltage DC is applied to the DC power input. Boudreaux's system in view of the teachings of Carse and Saunder's comprise hot-swappable battery packs used with AC power line input to supply the units with power, as such, when the AC indicator indicates failure of the AC power source, then the terminal will be in a period of inoperativeness

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(Boudreaux Col 5 line 58 to Col 6 line 58) (Boudreaux Col 10 lines 44-57) for the amount of time it takes to replace the battery pack.

3. **Claims 7-11** rejected under 35 U.S.C. 103(a) as being unpatentable over Boudreaux, Jr. et al. (6584197) in view of Carse et al (4730311), and further in view of Saunder's et al. (6078112).

a. **Claim 7:** Boudreaux discloses a telecommunications system comprising:

i. A customer service terminal having:

- (1) A digital signal input (Col 1 lines 43 to 50)
- (2) Low voltage DC power input (+42V and V in Fig. 4B)
- (3) A plurality of analog and digital signal outputs (terminal equipment subsystems 32 in Fig. 1) (Col 4 lines 35-41).

ii. A DSL (HDSL for example) line connected to the digital input (Col 1 lines 43 to 50).

iii. A plurality of analog devices are inherently connected to the terminal equipment subsystems 32 in Fig. 1 (Col 4 lines 35-41) (that may be POTS interfaces) for the purpose of communicating on the network with Boudreaux's communication system.

iv. At least one digital device is inherently connected to the terminal equipment subsystems 32 in Fig. 1 (Col 4 lines 35-41) (that may be computer data

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interfaces) for the purpose of communicating on the network with Boudreaux's communication system.

- v. An AC input connected to an AC power line (Fig. 1).
- vi. An AC-DC rectification network (wall transformer) with a high voltage AC input and a high voltage DC output (Fig. 5, Col 10 lines 20-44).
- vii. A pulse width modulating DC-DC converter 410 (Fig. 5) coupled to the AC-DC network and with a low voltage DC output to the customer terminal devices (Col 10 lines 20-32).
- viii. A control loop connected to the output of the PWM DC-DC converter that is responsive to the energy demands of the customer terminals and is connected in controlling relation to the PWM converter (shown in circuit 410 of Fig. 5) (Col 10 line 58 to Col 11 line) (Col 5 line 58 to Col 6 line 5).

However, Boudreaux does not disclose:

- ix. A low voltage rechargeable battery pack that forms a manually removable portion of the low voltage DC supply that is used in case of a failure of the AC power.
- x. The battery pack is Hot Swappable (able to be removed and replaced without interrupting service to the user), as long as the AC power is functioning.

Carse discloses a telecommunications system (Abstract) that receives AC power comprising a battery pack backup 88 (Fig. 2), a first indicator (alarm 92) to indicate the

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failure of the AC power line, and a second indicator 93 to indicate the state of charge of the battery pack (Col 7 lines 22-48). It would have been obvious to one of ordinary skill in the art at the time of this application to include a backup battery pack in Boudreaux's system for the purpose of being able to provide the subscriber with power in the event of a loss of power from the AC power line and loss of (or insufficient amount of) span power from the central office.

Saunders discloses a rechargeable, hot-swappable battery pack that may be used in computer systems (such as the subscriber multiplexing systems disclosed by Boudreaux and Carse) (Abstract) (Col 3 lines 27-45). He discloses that the system may include hot swappable devices such as batteries that may be used with (and recharged by) an existing AC power supply (Col 4 lines 54-67). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize hot-swappable, rechargeable batteries in the system taught by Boudreaux in view of Carse for the purpose of providing an even greater level of service to the subscriber with the batteries being rechargeable (longer lasting), and replaceable in the case that the battery pack fails or becomes discharged.

b. Claim 8: Carse discloses the low voltage DC power supply comprising a first indicator (alarm 92) to indicate the failure of the AC power line, and a second indicator 93 to indicate the state of charge of the battery pack (Col 7 lines 22-48).

c. **Claim 9:** The telecommunications system of Boudreaux in view of Carse in view of Saunders further comprises:

- i. Boudreaux's system does not comprise an on/off switch and as such, the low voltage DC signal applied to the DC power input will maintain the customer service terminal.
- ii. Saunder's battery pack is rechargeable and as such will maintain operation of the Boudreaux's customer service terminal (in the even the AC power fails) for a long time period.
- iii. Boudreaux's system in view of the teachings of Carse and Saunder's comprise hot-swappable battery packs used with AC power line inputs to supply the units with power, as such, when the AC indicator indicates failure of the AC power source, then the terminal will be in a period of inoperativeness (Boudreaux Col 5 line 58 to Col 6 line 58) (Boudreaux Col 10 lines 44-57) for the amount of time it takes to replace the battery pack.

d. **Claim 10:** Although Boudreaux, Carse, and Saunders do not specify an amount of time the battery pack would keep the system powered in the event of a failure, it would have been obvious to one of ordinary skill in the art at the time of this application to provide a battery that could maintain the system power for a reasonable amount of time for the loss of AC power to be detected and repaired (as long as 8 hours).

e. **Claim 11:** In Boudreaux's system, the dsl line is an xdsl (HDSL) line (Col 1 lines 43 to 50).

4. **Claim 12** rejected under 35 U.S.C. 103(a) as being unpatentable over Boudreaux, Jr. et al. (6584197) in view of Carse et al (4730311), and further in view of Saunder's et al. (6078112).

a. **Claim 12:** Boudreaux discloses a telecommunications system, a method to minimize periods of inoperativeness of a customer service terminal. The method comprising:

- i. The method is used in a customer service terminal having:
 - (1) A digital signal input (Col 1 lines 43 to 50) from an xdsl (HDSL) line (Col 1 lines 43 to 50).
 - (2) Low voltage DC power input (V in Fig. 4B, Fig. 5) to feed the customer service terminal that will remain operative so long as voltage is applied to the power supply circuit (Fig. 5)
 - (3) A plurality of analog and digital signal outputs (terminal equipment subsystems 32 in Fig. 1) (Col 4 lines 35-41).
- ii. Providing as part of a DC power supply, an AC-DC rectification network (wall transformer) with a high voltage AC input and a high voltage DC output (Fig. 5, Col 10 lines 20-44), and further providing a pulse width modulating DC-DC converter 410 (Fig. 5) coupled to the AC-DC network and with a low voltage DC output to the customer terminal devices (Col 10 lines 20-32).
- iii. The DC output (V in Fig. 5) of the DC power supply provides power for the customer service terminal

- iv. Providing a low voltage DC power supply (local utility interface 10 in Fig. 1) having a high voltage ac input connected to a high voltage AC power line.

However, Boudreaux does not disclose:

- v. Providing a low voltage rechargeable battery pack that forms a portion of the low voltage DC supply.
- vi. Using the battery to apply voltage to the DC power supply input in case of a failure of the AC power source.
- vii. Using the DC power supply to charge the battery while the AC source has not failed.
- viii. Providing a visual indicator to indicate the charge state of the battery pack
- ix. Swapping the battery pack with a new one as a function of the visual indication.

Carse discloses a telecommunications system (Abstract) that receives AC power comprising a battery pack backup 88 (Fig. 2) that may be used to power the customer service terminal when the AC power has failed. He also discloses an indicator 93 to indicate the state of charge of the battery pack (Col 7 lines 22-48). It would have been obvious to one of ordinary skill in the art at the time of this application to include a backup battery pack in Boudreaux's system for the purpose of being able to provide the subscriber with power in the event of a loss of power from the AC power line and loss of (or insufficient amount of) power from the central office.

Additionally, it would have been obvious to one of ordinary skill in the art at the time of this application to implement a standard audio or visual indicator as the indicator in Carse's rechargeable battery in order to facilitate alerting the user as to the state of the battery charge.

Saunders discloses a rechargeable, hot-swappable battery pack that may be used in computer systems (such as the subscriber multiplexing systems disclosed by Boudreaux and Carse) (Abstract) (Col 3 lines 27-45). He discloses that the system may include hot swappable devices such as batteries that may be used with (and recharged by) an existing AC power supply (Col 4 lines 54-67). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize hot-swappable, rechargeable batteries in the system taught by Boudreaux in view of Carse for the purpose of providing an even greater level of service to the subscriber with the batteries being rechargeable (longer lasting), and replaceable in the case that the battery pack fails or becomes discharged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the


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organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
March 1, 2004



DUC NGUYEN
PRIMARY EXAMINER